



# NORTH BIHAR POWER DISTRIBUTION CO. LTD.

[Office of Chief Engineer, Project-I/Urban]  
(Regd. Office: Vidyut Bhawan, Bailey Road, Patna)  
CIN No: U40109BR2012SGC018920

Letter No: 701

[File No:-N-XIII/RDSS/VA/Chapra Circle-3079/2023-

Dated: 03/7/23

E-mail: cerdssnbpdc@gmail.com

From,

**Shriram Singh**  
Chief Engineer, Project-I (Urban)

To,

**M/s NCC Ltd**  
NCC House, Survey no. 64, Madhapur,  
Hyderabad, 500081  
Email: [elec.tenders@nccltd.in](mailto:elec.tenders@nccltd.in)

**Sub:-** Regarding approval of GTP & Drawing of Lighting Arrester of make M/s Orange Power T&D Equipments Pvt. Ltd., Bangalore for Loss Reduction Component works under "Revamped Reforms-Based and Results-Linked Distribution Sector Scheme."

**Ref:-** (i) NOA No.-244 & 245 dated 06.03.2023  
(ii) Your letter no.-094 dated 26.06.2023

Sir,

With reference to the above, please find the copy of approved GTP & Drawing of following item for Loss Reduction Component works under "Revamped Reforms-Based and Results-Linked Distribution Sector Scheme":-

S.N.	Material Description	Vendor Name
1	9 KV 5 KA Distribution Class Lighting Arrester	M/s Orange Power T&D Equipments Pvt. Ltd., No.-2, 1 <sup>st</sup> Cross, SSI Area, Rajajinagar, Bangalore-560010
2	9 KV 10 KA Station Class Lighting Arrester	

Correction where required in GTP & Drawing submitted by you has been done. However, these drawings shall be subject to correctness as per technical specifications of the tender document and the entire responsibility of correctness of the drawing as per the specifications as well as supply of material according to the technical specifications of the contract agreement shall be that of the contractor.

In case of any conflict or contradiction between GTP/Drawing & Technical Specifications, the decision of Chief Engineer, Project-I (Urban) shall be final and binding on both parties. Contractor shall have to replace the material to the entire satisfaction of the purchaser in case the material is found unsuitable for use in the project, at any stage.

Please carry out the works immediately under the conditions stated above.

Encl:- As above

Yours faithfully

(Shriram Singh)

Chief Engineer, Project-I (Urban)

Memo No.- 701

Dated- 03/7/23

Copy forwarded M/s Vindhya Telelinks Limited, Club 125, 6th floor, Tower A, Plot No- 3, 4 & 5, Sector 125, Noida, UP-201301 / M/s Polycab India Ltd., Polycab House, 771, Pandit Satwalekar Marg, Mumbai / M/s Ashoka Buildcon Ltd, S.No.-861, Ashoka House, Ashoka Marg, Vadala, Nashik-422011 / for information and necessary action.

Encl:-As above

(Shriram Singh)

Chief Engineer, Project-I (Urban)

Memo No.- 701

Date- 03/7/23

Copy forwarded to Chief Engineer, Project-II, NBPDC for information and necessary action.

Encl:-As above

(Shriram Singh)

Chief Engineer, Project-I (Urban)

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# ORANGE POWER

## GUARANTEED TECHNICAL PARTICULARS 9kV 5kA POLYMERIC LIGHTNING ARRESTER.

Sl. No.	PARTICULARS	REQUIREMENT
1	Name & address of manufacturer.	Orange Power T & D Equipments Pvt Ltd. #2,1st Cross SSI Area Rajajinagar Bangalore 560010
2	Arrester Class and Type.	Metal oxide Gapless Lightning Arrester. <i>Distribution class.</i>
3	Model No.	OPTD-0905P
4	Applicable Standard	IEC 60099-4 IS:3070 (Part III)
5	Rated Voltage	9 kV ✓
6	Maximum Continuous Operating voltage (kV rms)	7.65 kV ✓
7	Nominal Discharge current rating (8/20µs) (kA)	5 kA ✓
8	Low current long Duration current & duration	75A 1000µs ✓
9	Maximum steep current impulse residual voltage at 5kA 1/20µs	<del>32.36</del> kV peak
10	Maximum residual voltage with 8/20 Micro second wave > 5 kA > 10 kA	<del>27.32</del> kV Peak 34 kV Peak
11	High current impulse withstand level with 4/10µs wave.	65 kA Peak. ✓
12	One minute Power frequency withstand voltage of housing dry & wet	35 kV rms.
13	Lightning Impulse withstand voltage of arrester housing with 1.2/50 microsecond wave.	75 kV rms. ✓

**APPROVED**  
 Subject to the condition that you are not absolved to the responsibility of correctness of materials  
 CE (Project-1), Urban  
 NBPDCCL

**Checked**  
 AEE(P-1) EEE(P-1) ESE(P-1)





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## ORANGE POWER

14	Over Voltage withstand capability seconds.	Seconds 10 Seconds 1 Seconds 0.1	9.7 10.1 10.8	9.1 kV rms 9.4 kV rms 10.0 kV rms
15	Reference Voltage		Greater than rated voltage of the arrester at reference current.	
16	Reference Current.		1 mA ✓	
17	Pressure relief Class		Class A ✓	
18	Number of units		Single unit ✓	
19	Creepage Distance		Min 300 mm ✓	
20	Leakage Current @ MCOV		Less than 0.8 mA	
21	Height of the arrester.		As per drawing	
22	Min distance between phase and ground object.		300 mm	
23	Min distance between arrester phase legs		200 mm	
24	System Neutral condition		Solidly Grounded	
25	Insulating Bracket		Provided	

partial discharge at 1.05COV

Less than 50 pico Coulomb.

Scheme	Revamped Reforms-Based and Result- Linked, Distribution Sector Scheme (RDSS) - <del>Uttar</del> <b>Pradesh</b> <b>Reduction - NBPDC</b>
Project	Development of Distribution Infrastructure at Chapra Electric Supply Circle (Saran, Siwan and Gopalganj) of Bihar State On Turnkey Basis.
Customer	North Bihar Power Distribution Co.Ltd
Contractor	NCC Limited, Hyderabad.
LOA No.	244/N-XIII/P-I(U)/Tender (RDSS)-3050/2022 Dt:- 06-03-2023

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AEE(P-1) EEE(P-1) ESE(P-1)



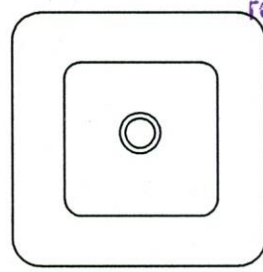
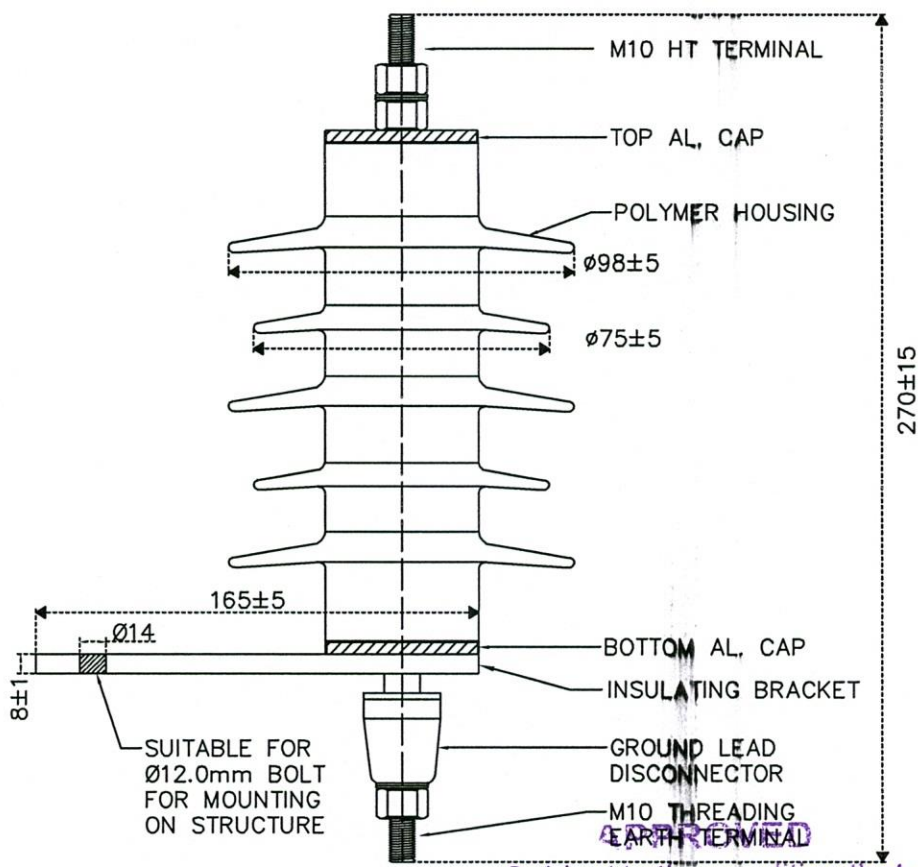
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CE (Project-1), Urban  
NBPDC

CLIENT : North Bihar Power Distribution Co.Ltd  
 PROJECT : Development of Distribution Infrastructure at Chupra Electric Supply Circle (Saran, Siwan and Gopalganj) of Bihar State On Turnkey Basis.  
 LOA No.: 244/N-XIII/P-(U)/Tender (RDSS)-3050/2022 Dt:- 06-03-2023  
 CONTRACTOR : M/s NCC LIMITED - Hyderabad

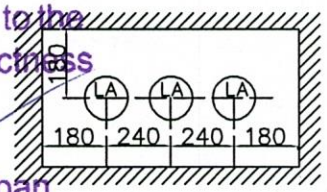
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TOP VIEW

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CE (Project-1), Urban NBPDC



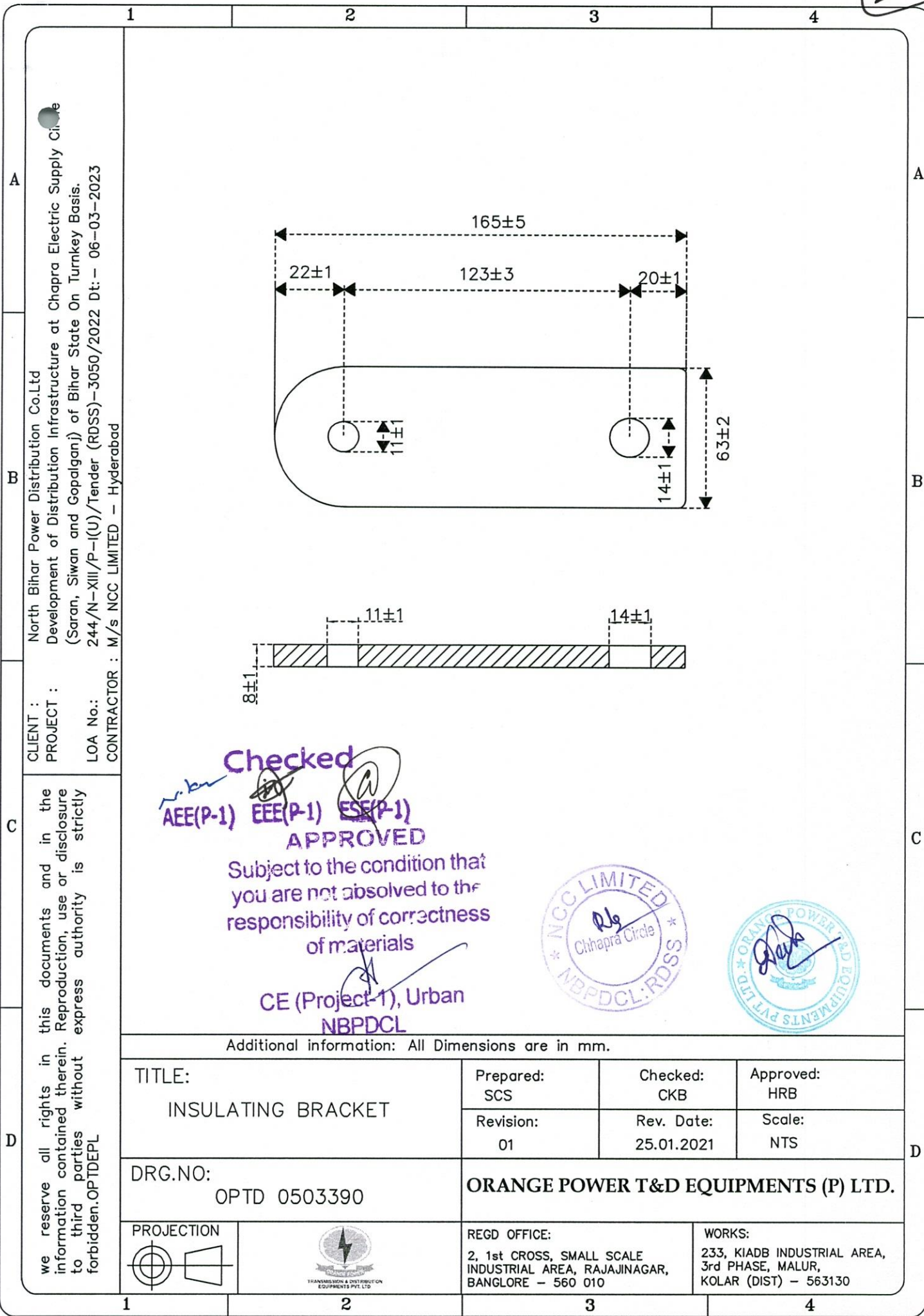
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Additional information: All Dimensions are in mm.

TITLE: 9KV 5KA DISTRIBUTION TYPE POLYMERIC LIGHTNING ARRESTER WITH DISCONNECTOR	Prepared: SCS	Checked: CKB	Approved: HRB
	Revision: 01	Rev. Date: 25.01.2021	Scale: NTS
DRG.NO: OPTD 0503251	ORANGE POWER T&D EQUIPMENTS (P) LTD.		
PROJECTION 	REGD OFFICE: 2, 1st CROSS, SMALL SCALE INDUSTRIAL AREA, RAJAJINAGAR, BANGLORE - 560 010	WORKS: 233, KIADB INDUSTRIAL AREA, 3rd PHASE, MALUR, KOLAR (DIST) - 563130	

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CLIENT : North Bihar Power Distribution Co.Ltd  
 PROJECT : Development of Distribution Infrastructure at Chapra Electric Supply Circle (Saran, Siwan and Gopalganj) of Bihar State On Turnkey Basis.  
 LOA No.: 244/N-XIII/P-I(U)/Tender (RDSS)-3050/2022 Dt: - 06-03-2023  
 CONTRACTOR : M/s NCC LIMITED - Hyderabad

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 CE (Project-1), Urban NBPDC



Additional information: All Dimensions are in mm.

TITLE: INSULATING BRACKET	Prepared: SCS	Checked: CKB	Approved: HRB
	Revision: 01	Rev. Date: 25.01.2021	Scale: NTS
DRG.NO: OPTD 0503390	ORANGE POWER T&D EQUIPMENTS (P) LTD.		
PROJECTION 	REGD OFFICE: 2, 1st CROSS, SMALL SCALE INDUSTRIAL AREA, RAJAJINAGAR, BANGLORE - 560 010	WORKS: 233, KIADB INDUSTRIAL AREA, 3rd PHASE, MALUR, KOLAR (DIST) - 563130	



**ORANGE POWER**  
**GUARANTEED TECHNICAL PARTICULARS**  
**9kV 10kA POLYMERIC LIGHTNING ARRESTER.**

Sl. No.	PARTICULARS	REQUIREMENT
1	Name & address of manufacturer	Orange Power T & D Equipments Pvt Ltd. #2, 1st Cross SSI Area Rajajinagar Bangalore 560010
2	Arrester Class	Metal oxide Gapless
3	Type	Outdoor
4	Applicable Standard	IEC 60099-4:2010
5	Rated Voltage	9 kV ✓
6	Nominal Discharge current rating (8/20µs) (kA)	10 ✓
7	Maximum Continuous Operating voltage (kV rms)	7.65 ✓
8	Highest system voltage(kV rms)	12 ✓
9	Reference current	2mA
10	Reference voltage	Greater than rated voltage
11	Long Duration discharge Class	Class 2 ✓
12	High current impulse withstand level with 4/10 µs wave. (kAp)	100 ✓
13	Maximum energy Dissipation capability for 3sequential shots	6 kJ/kV
14	Low current long duration (A)	400A 2000µs
15	Maximum lightning impulse residual voltage with 8/20 µs. > 10 kA	32.0 kV Peak
16	Maximum switching impulse residual voltage with 40/80µs wave at 500A (kvpeak)	24.0

Checked  
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IPDNY





# ORANGE POWER

17	Over Voltage withstand capability seconds. 1. 10 Seconds 2. 1 Seconds 3. 0.1 Seconds	9.7 9.5 kV rms. 10.5 kV rms. 11.0 kV rms.
18	Partial discharge at 1.05 times MCOV	Less than 10pC ✓
19	Lightning Impulse Withstand voltage (Kv rms)	75 ✓
20	Power Frequency withstand voltage 1min dry & wet (kV rms)	28 ✓
21	Number of units	Single unit
22	Creepage Distance	300mm Min
23	Housing type	Polymeric
24	Housing material	Silicon rubber
25	Color of housing	Grey
26	Overall Height of the arrester.	As per drawing
27	Min recommended center to center spacing between Arresters	240 mm
28	Clearance required from ground Equipment at various height of Arrester unit	180 mm

Scheme	Revamped Reforms-Based and Result- Linked, Distribution Sector Scheme (RDSS) - <u>Uttar</u> <u>Low</u> Pradesh <u>Reduction - NBPDC</u>
Project	Development of Distribution Infrastructure at Chapra Electric Supply Circle (Saran, Siwan and Gopalganj) of Bihar State On Turnkey Basis.
Customer	North Bihar Power Distribution Co.Ltd
Contractor	NCC Limited, Hyderabad.
LOA No.	244/N-XIII/P-I(U)/Tender (RDSS)-3050/2022 Dt:- 06-03-2023

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 AEE(P-1) EEE(P-1) ESP(P-1)

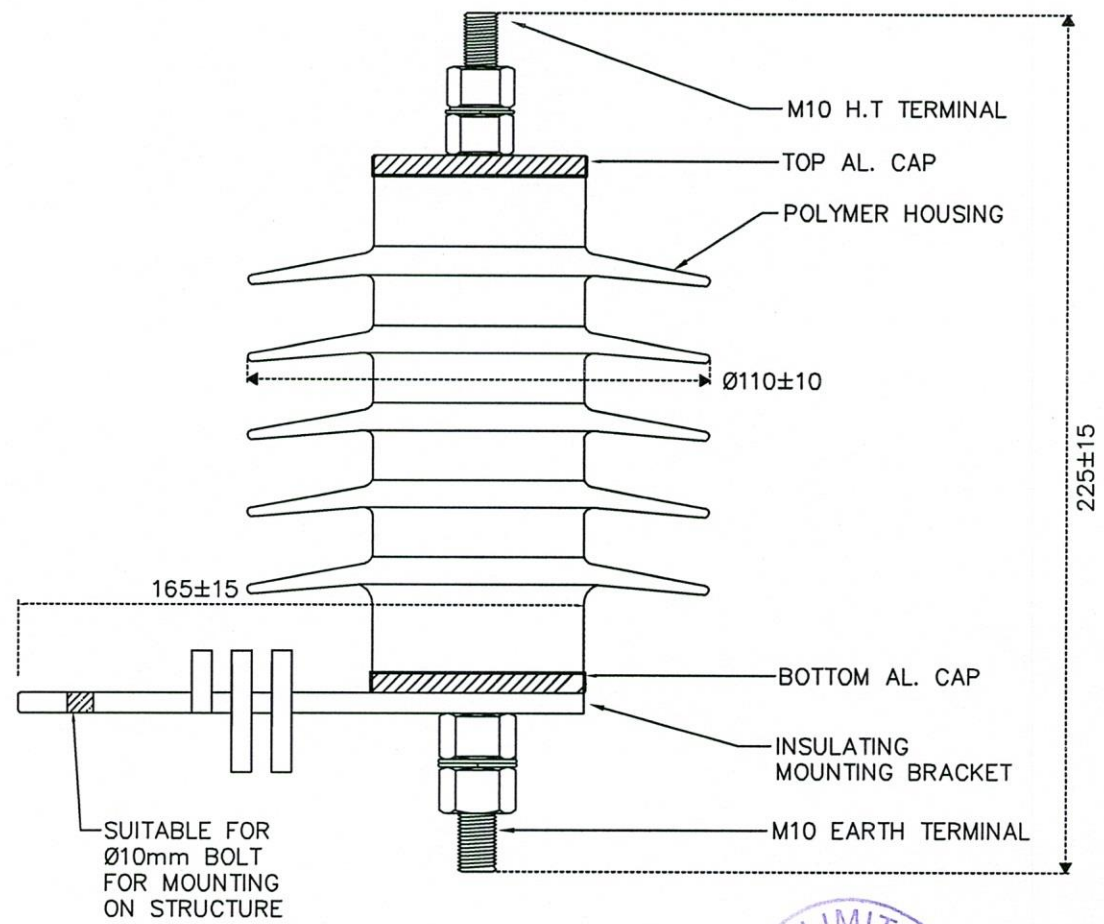


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 NBPDC

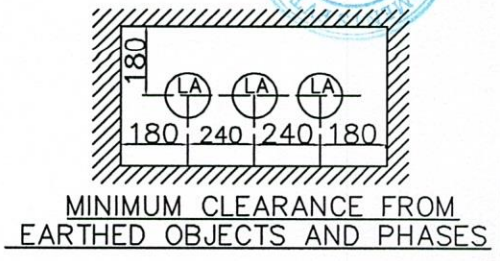
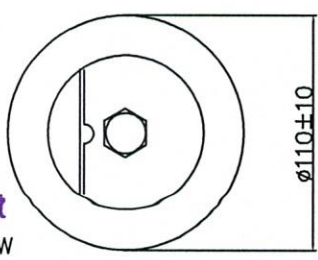
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**CLIENT :** North Bihar Power Distribution Co.Ltd  
**PROJECT :** Development of Distribution Infrastructure at Chapra Electric Supply Circle (Saran, Siwan and Gopalganj) of Bihar State On Turnkey Basis.  
**LOA No.:** 244/N-XII/P-(U)/Tender (RDSS)-3050/2022 Dt: - 06-03-2023  
**CONTRACTOR :** M/s NCC LIMITED - Hyderabad



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 CE (Project-1), Urban  
 NBPDCCL



Additional information: All Dimensions are in mm.

TITLE: 9KV 10KA POLYMERIC LIGHTNING ARRESTER STATION CLASS-2	Prepared: SCS	Checked: CKB	Approved: HRB
	Revision: 01	Rev. Date: 25.01.2021	Scale: NTS
DRG.NO: OPTD 0503400	ORANGE POWER T&D EQUIPMENTS (P) LTD.		
PROJECTION 	REGD OFFICE: 2, 1st CROSS, SMALL SCALE INDUSTRIAL AREA, RAJAJINAGAR, BANGLORE - 560 010	WORKS: 233, KIADB INDUSTRIAL AREA, 3rd PHASE, MALUR, KOLAR (DIST) - 563130	

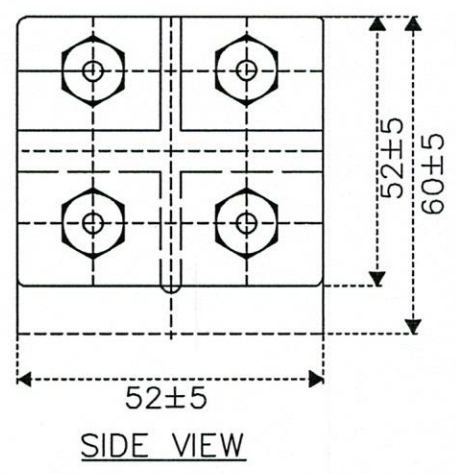
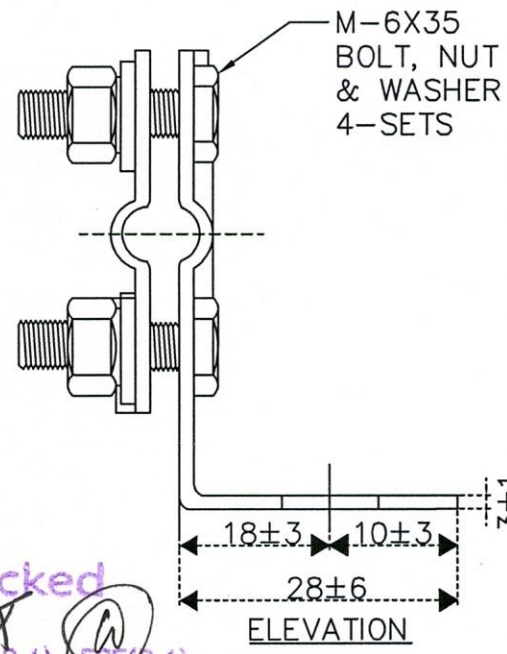
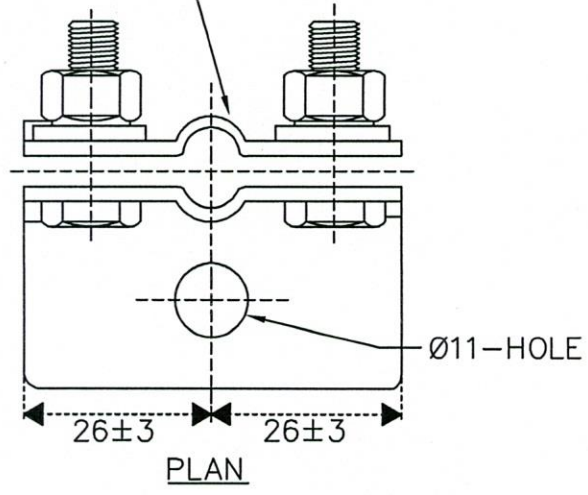
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CLIENT : North Bihar Power Distribution Co.Ltd  
 PROJECT : Development of Distribution Infrastructure at Chapra Electric Supply Circle (Saran, Siwan and Gopalganj) of Bihar State On Turnkey Basis.  
 LOA No.: 244/N-XIII/P-(U)/Tender (RDSS)-3050/2022 Dt:- 06-03-2023  
 CONTRACTOR : M/s NCC LIMITED - Hyderabad

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SUITABLE FOR CONDUCTOR SIZE Ø9 TO Ø16mm HORIZONTAL OR VERTICAL TAKE OFF



Checked  
 EEE(P-1) EEE(P-1) ESE(P-1)  
**APPROVED**  
 Subject to the condition that you are not absolved to the responsibility of correctness  
 MATERIAL: ALUMINIUM



Additional information: All Dimensions are in mm.

TITLE: TERMINAL CONNECTOR FOR 11KV LIGHTNING ARRESTER		Prepared: SCS	Checked: CKB	Approved: HRB
DRG.NO: OPTD 0503485		Revision: 02	Rev. Date: 25.01.2021	Scale: NTS
PROJECTION		ORANGE POWER T&D EQUIPMENTS (P) LTD.		
		REGD OFFICE: 2, 1st CROSS, SMALL SCALE INDUSTRIAL AREA, RAJAJINAGAR, BANGLORE - 560 010	WORKS: 233, KIADB INDUSTRIAL AREA, 3rd PHASE, MALUR, KOLAR (DIST) - 563130	